

AMENDMENTS TO THE CLAIMS

1 - 110. (Cancelled)

111. (Currently Amended) A method for secreting protein into urine, comprising:

- a) providing;
 - i) a non-human mammal comprising a plurality of urinary tract cells;
 - ii) a nucleotide sequence encoding a protein operably linked to a promoter, wherein said promoter is selected from the group consisting of ~~a whey acidic protein promoter, a uroplakin promoter,~~ a uromodulin promoter, a uropontin promoter, an osteopontin promoter, and a nephrocalcin promoter, ~~and an aquaporin promoter;~~
- b) introducing said nucleotide sequence into said urinary tract cells to create a transgenic non-human mammal; and
- c) expressing said protein in said urinary tract cells under conditions such that said protein is secreted into urine of said transgenic non-human mammal.

112. (Currently Amended) The method of Claim 111 ~~118~~, wherein said protein comprises human protein C.

113. (Currently Amended) The method of Claim 111 ~~118~~, wherein said protein is selected from the group consisting of ~~comprises~~ phytase, phosphate removing enzyme, cellulase, avicelase, carboxymethylcellulase, β -glucosidase, xylanase, pectinase, ligninase, lignin peroxidase, aromatic acid esterase, aromatic aldehyde oxidase, lignocellulose-degrading enzyme, lignin-solubilizing enzyme, lignocellulose oxidases, chlorohydrase, dechlorinating enzyme, aldehyde reductase 1, carbonyl reductase 1, carbonyl reductase 2, chlordecone reductase, organic arsenic-methylating enzymes, chlorobenzene, dioxygenase, ferredoxin, reductase, organophosphorous hydrolase, arlyesterase, paraoxonase, parathion hydrolase, organophosphorous degrading enzyme, nitrile aminohydrolase, amidase, toluate 1, 2-dioxygenase, dihydro-dihydroxybenzoic acid dehydrogenase, salicylate hydroxylase, nitroaromatic-degrading enzyme, organosulfur-degrading enzyme, sulfur oxidating enzyme, phenylalanine dehydrogenase, endoglycosidase, haloperoxidase, chloroperoxidase, hydroxybiphenyl 3-monooxygenase, 2,4-dichlorophenol 6-hydroxylase, phenol 2-hydroxylase, styrene monooxygenase, epoxystyrene isomerase, and phenylacetaldehyde dehydrogenase.

114. (Currently Amended) A non-human transgenic mammal ~~produced according to Claim 111~~ comprising a plurality of urinary tract cells and a nucleotide sequence encoding a protein operably linked to a promoter, wherein said promoter is selected from the group consisting of a whey acidic protein promoter, and a uroplakin promoter.

115. (Currently Amended) Non-human transgenic mammal urine comprising a protein, wherein said protein is produced according to Claim 111.

116. (New) A method for secreting protein into urine, comprising:

- a) providing;
 - i) a non-human mammal comprising a plurality of urinary tract cells;
 - ii) a nucleotide sequence encoding a protein operably linked to a promoter, wherein said promoter comprises a uroplakin promoter;
- b) introducing said nucleotide sequence into said urinary tract cells to create a transgenic non-human mammal; and
- c) expressing said protein in said urinary tract cells under conditions such that said protein is secreted into urine of said transgeneic non-human mammal.

117. (New) The method of Claim 116, wherein said protein comprises human protein C.

118. (New) The method of Claim 116, wherein said protein is selected from the group consisting of phytase, phosphate removing enzyme, cellulase, avicelase, carboxymethylcellulase, β -glucosidase, xylanase, pectinase, ligninase, lignin peroxidase, aromatic acid esterase, aromatic aldehyde oxidase, lignocellulose-degrading enzyme, lignin-solubilizing enzyme, lignocellulose oxidases, chlorohydrase, dechlorinating enzyme, aldehyde reductase 1, carbonyl reductase 1, carbonyl reductase 2, chlordecone reductase, organic arsenic-methylating enzymes, chlorobenzene, dioxygenase, ferredoxin, reductase, organophosphorous hydrolase, arlyesterase, paraoxonase, parathion hydrolase, organophosphorous degrading enzyme, nitrile aminohydrolase, amidase, toluate 1, 2-dioxygenase, dihydro-dihydroxybenzoic acid dehydrogenase, salicylate hydroxylase, nitroaromatic-degrading enzyme, organosulfur-degrading enzyme, sulfur oxidating enzyme, phenylalanine dehydrogenase, endoglycosidase, haloperoxidase, chloroperoxidase, hydroxybiphenyl 3-monooxygenase, 2,4-dichlorophenol 6-hydroxylase, phenol 2-hydroxylase, styrene monooxygenase, epoxystyrene isomerase, and phenylacetaldehyde dehydrogenase.

119. (New) Non-human transgenic mammal urine comprising a protein, wherein said protein is produced according to Claim 116.

120. (New) A method for secreting protein into urine, comprising:

- a) providing;
 - i) a non-human mammal comprising a plurality of urinary tract cells;
 - ii) a nucleotide sequence encoding a protein operably linked to a promoter, wherein said promoter comprises a whey acidic protein promoter;
- b) introducing said nucleotide sequence into said urinary tract cells to create a transgenic non-human mammal; and
- c) expressing said protein in said urinary tract cells under conditions such that said protein is secreted into urine of said transgenic non-human mammal.

121. (New) The method of Claim 120, wherein said protein comprises human protein C.

122. (New) The method of Claim 120, wherein said protein is selected from the group consisting of phytase, phosphate removing enzyme, cellulase, avicelase, carboxymethylcellulase, β -glucosidase, xylanase, pectinase, ligninase, lignin peroxidase, aromatic acid esterase, aromatic aldehyde oxidase, lignocellulose-degrading enzyme, lignin-solubilizing enzyme, lignocellulose oxidases, chlorohydrase, dechlorinating enzyme, aldehyde reductase 1, carbonyl reductase 1, carbonyl reductase 2, chlordecone reductase, organic arsenic-methylating enzymes, chlorobenzene, dioxygenase, ferredoxin, reductase, organophosphorous hydrolase, arlyesterase, paraoxonase, parathion hydrolase, organophosphorous degrading enzyme, nitrile aminohydrolase, amidase, toluate 1, 2-dioxygenase, dihydro-dihydroxybenzoic acid dehydrogenase, salicylate hydroxylase, nitroaromatic-degrading enzyme, organosulfur-degrading enzyme, sulfur oxidating enzyme, phenylalanine dehydrogenase, endoglycosidase, haloperoxidase, chloroperoxidase, hydroxybiphenyl 3-monooxygenase, 2,4-dichlorophenol 6-hydroxylase, phenol 2-hydroxylase, styrene monooxygenase, epoxystyrene isomerase, and phenylacetaldehyde dehydrogenase.

123. (New) Non-human transgenic mammal urine comprising a protein, wherein said protein is produced according to Claim 120.